

Patent claims

1. An immunogen derived from a protein allergen, characterized in that said immunogen comprises:

5 a non-anaphylactic immunogenic recombinant fragment of the protein allergen, said fragment containing an IgG epitope partly but not wholly overlapping an IgE epitope of the protein allergen

10 b. a polymeric form of said fragment, in which form the fragment constitutes the monomeric units;

10 c. a recombinant polymeric form of said protein allergen in which the protein allergen constitutes the monomeric units.

15 2. The immunogen according to claim 1, characterized in that the polymeric form of said fragment is recombinantly produced.

20 3. The immunogen according to anyone of claims 1-2, characterized in that said monomeric units are separated from each other by a oligopeptide linker, typically consisting of 1-30 amino acid residue that may be hydrophilic.

25 4. The immunogen according to anyone of claims 1-3, characterized in that said immunogen also contains a carrier for the fragment in (a) and the polymeric forms in (b) and (c), respectively.

30 5. The immunogen according to any of claims 1-4, characterized in that the protein allergen is Bet v 1.

6. The immunogen according to claims 1-5, characterized in that it is according to (b) or (c) in claim 1.

35 7. The immunogen according to claim 6, characterized in that the number of the monomeric units is an integer 2-10.

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8. The use of the immunogen according to any of claims 1-5 for the in vitro diagnoses of type I allergy in a mammalian individual.
- 5 9. The use according to claim 8, characterized in that the immunogen is according to (b) and (c) in claim 1.
10. The use according to claim 9, characterized in that the number of monomeric units are an integer selected from 2-10.
- 15 11. The use of the immunogen according any of claims 1-5 for the preparation of a medicament to be used in the hyposensitization of a mammalian individual suffereing from a type I allergy or for the preparation for a reagent to be used in diagnoses in vivo of type I allergy.
- 20 12. The use according to claim 11, characterized in that the immunogen is according to (b) and (c) in claim 1.
- 25 13. The use according to claim 12, characterized in that the number of monomeric units are an integer selected from 2-10.
- 30 14. Method for the hyposensitization of a mammal suffering from IgE mediated allergy against a protein allergen, comprising the step of presenting the immune system of the mammal in vivo to an effective amount of an immunogen hyposensitizing the mammal against the allergen, characterized in that the immunogen comprises
 - a. a non-anaphylactic immunogenic recombinant fragment the protein allergen, said fragment containing an epitope partly but not wholly overlapping an IgE epitope of the protein allergen;
 - b. a polymeric form of said fragment, in which form the fragment constitutes the monomeric units;
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- c. a recombinant polymeric form of said protein allergen in which the protein allergen constitutes the monomeric units.
- 5 15. The method according to claim 14, characterized in that the immunogen is a polymeric form of said fragment and is recombinantly produced.
- 16. The method according to anyone of claims 14-15,
10 characterized in that the immunogen is a polymeric form and that said monomeric units are separated from each other by a oligopeptide linker, typically consisting of 1-30 amino acid residue that may be hydrophilic.
- 15 17. The method according to anyone of claims 14-16, characterized in that said immunogen also contains a carrier for the fragment in (a) and the polymeric forms in (b) and (c), respectively.
- 20 18. The method according to anyone of claims 14-17, characterized in that the protein allergen is Bet v 1.
- 19. The method according to anyone of claims 14-18, characterized in that the immunogen is according to (b) or
25 (c) in claim 1.
- 20. The method according to claim 19, characterized in that the number of monomeric units is an integer 2-10.